

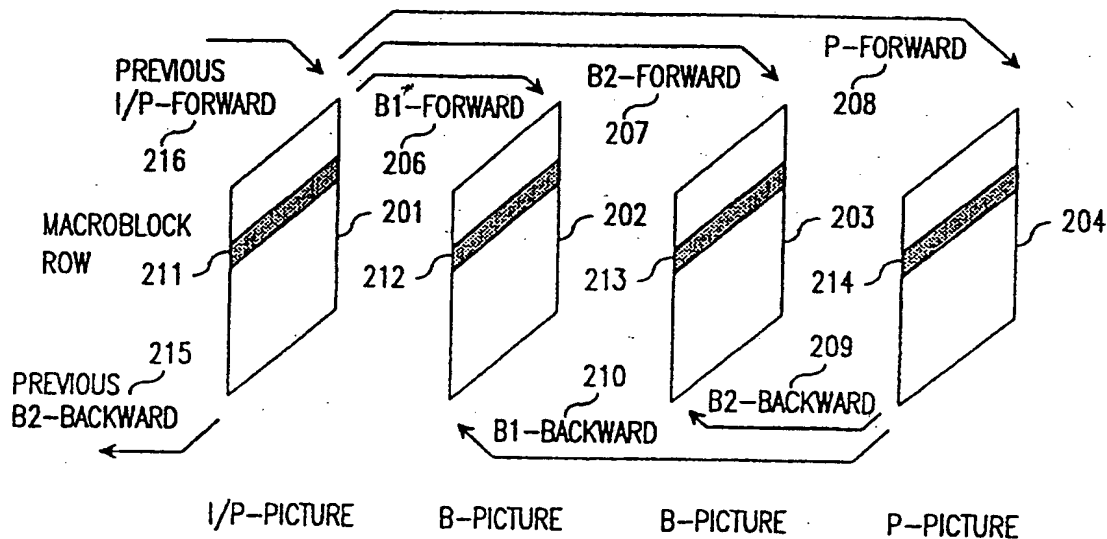
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| (21) International Application Number: PCT/SG98/00085 (22) International Filing Date: 13 October 1998 (13.10.98) (71) Applicant (for all designated States except US): STMICRO-ELECTRONICS ASIA PACIFIC PTE LTD [SG/SG]; 28 Ang Mo Kio Industrial Park 2, Singapore 569508 (SG). (72) Inventors; and (75) Inventors/Applicants (for US only): HUI, Yau, Wai, Lucas [SG/SG]; 10H Braddell Hill, #24-31, Singapore 579727 (SG). OH, Hong, Lye [SG/SG]; Block 455 Sin Ming Avenue, #07-483, Singapore 570455 (SG). BARD, Jean-Michel [FR/FR]; 253 Rue Flora Tristan, F-38920 Crolles (FR). (74) Agent: DONALDSON & BURKINSHAW; P.O. Box 3667, Singapore 905667 (SG). | | (81) Designated States: JP, SG, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> |

(54) Title: MOTION VECTOR DETECTION WITH LOCAL MOTION ESTIMATOR



(57) Abstract

A method and apparatus of encoding digital video, for example according to the ISO/IEC MPEG standards (ISO/IEC 11172-2 MPEG-1 and ISO/IEC 13818-2 MPEG-2), which employs a local motion estimator for determining respective local motion vectors for groups of adjacent macroblocks in a picture. A local motion vector is determined for each row of macroblocks in a picture from the motion vectors of the macroblocks in that row. Then, for macroblocks in the corresponding row of a subsequently coded picture, the local motion vector can be used to select the search window used for determining the motion vectors. The local motion estimator improves search range and accuracy of macroblock motion vector detection without increasing the search window accessing bandwidth and caching requirement, and computation load of searching.